Energy options pick up steam

Utah '07 tax credit gives a lift to wind, solar, other renewable sources

By Jeremy Twitchell
Deseret Morning News

After the push to reauthorize renewable energy tax credits died as time ran out in the 2006 Utah legislative session, industry representatives and concerned legislators got a head start on 2007.

Tom Smart, Deseret Morning News
Jason, left, and Mike Lewis install solar panels at the home of Ken Schreiner and Abbie Griffin in Salt Lake City in late March.

The failure to renew the credit, which was set to expire on Dec. 31, 2006, created an unsure future for renewable energy industries in Utah, which are often made or broken by the availability of tax credits.

But state Sen. Howard Stephenson, R-Draper, who sponsored the 2007 bill to reinstitute the credit, has come to see 2006's failure as a blessing in disguise.

"My original intention was to restore the previous credit," Stephenson said. "But it became obvious to me that we were giving the credit not for energy generation but for putting the equipment in place. We were rewarding the wrong thing."

The bill Stephenson proposed a few weeks before the 2007 session began was patterned on the federal tax credit, which rewards commercial renewable energy producers for the energy they actually produce. Stephenson's bill was bandied about in the two chambers for a while and ultimately incorporated into the "omnibus" tax bill created in the Senate and passed by a wide margin by both chambers.

The new credit offers commercial producers a credit of 0.35 cents per kilowatt-hour produced over the first four years of a project's life. This is in addition to the 1.9 cents per kwh federal tax credit. Fiscal projections prepared with the bill estimate it will hand out about $4.3 million in tax cuts over the next two years, the majority of that coming in fiscal 2009 as an anticipated boom in renewable energy systems kicks in.

Previously, large-scale projects were only eligible for a one-time state credit based on construction and installation costs. Other tax credits for residential and small commercial projects, however, will remain one-time benefits as before.

Tom Smart, Deseret Morning News
Solar energy panels may be popping up on more and more Utah homes, thanks to the tax credit restored by the 2007 Legislature.

The goal, Stephenson said, is to encourage the United States to work toward energy independence. And he said states must take such matters into their own hands.

"If (energy independence) could be our goal as a nation, think how differently we would be behaving in the world," Stephenson said. "I call this a peace initiative."

Winds of change

The industry that stands to gain the most from the redesigned corporate credit is wind power. Utah's wind energy market, which until now has been virtually nonexistent, is poised for a boom with at least three major projects nearing the construction phase and other areas of the state investigating the possibilities.

"(The tax credit) is what I was hoping for," said Tracy Livingston, president of Wasatch Wind, a Heber-based wind energy development firm. "We're pleased that the Legislature understands the issues associated with wind energy."

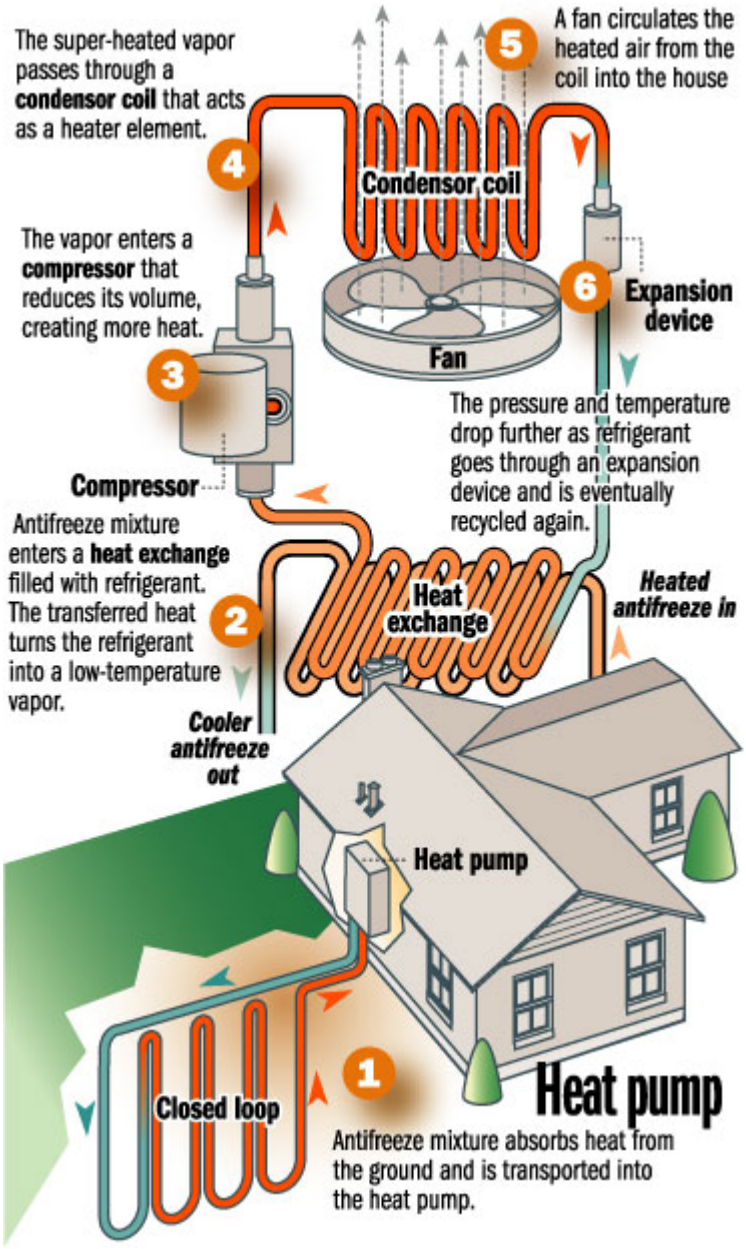
Wasatch Wind is developing an 18.9-megawatt wind farm near the mouth of Spanish Fork Canyon.

The project has encountered a number of challenges along the way. Residents objected to its original location within 500 feet of homes, and it had to be moved to another site. That site required a lengthy annexation and zoning process before Wasatch Wind could build on it.

But with the land now prepared, Wasatch Wind is hoping to stick to its original timeline that calls for the facility to be up and running by the end of the year.

With the tax credit in place, Livingston said he expects to see a number of new wind projects in the near future. Wasatch Wind is planning additional, larger projects in the state already, he said.

"I think we're going to see some interest around the state," Livingston said. "One of the things investors are interested in is the political climate. It's as important as monetary issues, so from that perspective, (the tax credit) is very important."



Deseret Morning News graphic

Another company already reaping the benefits of the restored credit is UPC Wind, which plans to build a 200-megawatt wind farm outside of Milford, Beaver County, in 2008. Just days after SB223 was signed into law, UPC announced it had won a bid to sell all the power produced at the Milford site to the Southern California Public Power Authority.

"The tax credit was definitely important to us," said Paul Gaynor, president and CEO of UPC Wind, which is based in Massachusetts. "What it does is help us become more competitive to sell renewable energy to Western markets."

Without the credit, Gaynor said, his company may not have been able to win the bid, and the Milford project likely would not have happened. With an investment that numbers in the hundreds of millions of dollars to build a large-scale facility, Gaynor said all the purchasing agreements for a project must be complete before the project can become a reality.

UPC also is looking at expanding its presence in Utah — Gaynor said the Milford site will at least double in capacity before UPC is done building there.

Modern turbines, which can produce 100 times as much power as they could just 10 years ago, are a major factor that will allow for the growth of wind energy in Utah and throughout the nation, Gaynor said.

Tax credits also could give Utah a leg-up on neighboring states as the industry expands.

"Utah wind resources are pretty good, but compared with other Western states, they're not as strong," he said. "This (tax credit) levels the playing field ... relative to other states. It's an advantage. No other states we're working with out West have this."

UPC's project is expected to bring a significant tax boost to Millard and Beaver counties.

"Especially for Beaver County, this is a huge boon for their school district," Stephenson said. "Beaver is one of the have-nots."

A smaller scale

While much of the focus in the tax credit issue has been on wind farms and other commercial projects, Stephenson said smaller systems that can be used at the residential level must not be neglected.

"I've come to realize from sponsoring the bill that the residential side is very important as well," he said. "You get such tremendous savings."

One technology Stephenson sees as having particularly strong potential is the geothermal pump, also called a heat pump. Geothermal pumps have been embraced by the federal government and hundreds of schools throughout the country in the past 20 years. The Department of Defense uses 7,500 heat pumps in its facilities, and schools that use the heat pumps save a total of about $25 million each year, according to the U.S. Department of Energy.

Geothermal pumps heat and cool structures by harnessing the Earth's natural temperature, which stays fairly constant year-round just a few feet below the surface.

The pumps use underground tubes that circulate water or a solution similar to

antifreeze; in the winter the earth heats the tubes, which carry the heat into the building. In the summer, the pump pulls heat out of the home and sends it into the earth. Geothermal heat pumps also provide free hot water in the summer.

Washington County School District in southwest Utah has incorporated geothermal pumps into 13 structures, including the district offices. Three more schools that will use geothermal pumps are under construction.

Phil Williams, the director of facilities for Washington County School District, said the pumps have reduced energy consumption by 20 percent to 30 percent over traditional boiler systems. Next-generation systems going into new schools should reduce that figure even further, he said.

"If you've got a building over 100,000 square feet, you can put in a heat pump system for about the same cost as putting in a boiler system," Williams said. "With smaller buildings, the up-front costs are more (for a pump system). ... It takes about 10 years to get the payback, but after that, the savings are significant."

Williams estimates the schools that use pumps save about $10,000 in energy costs per year once the pumps are paid for, and maintenance costs are anticipated to be about half of what the district pays to keep boiler systems going.

"For us, it's a win-win-win," Williams said.

Sun power

Solar energy is another renewable technology that figures to make big gains in Utah with the tax credit restored. Given its relative ease of installation, solar power representatives are planning for significant growth.

"I would think this will enhance the momentum going forward," said Orrin Farnsworth, president of the Utah Solar Association. "There are a number of projects in the works. ... When you tie those things together with what's already in place with the federal credit, we're forecasting big growth. We're predicting 30 to 50 percent growth in the solar industry for the next two years; annual growth has been around 25 to 30 percent."

With the tax credit in place, proponents of renewable energy say the technologies need to get some word of mouth going before they will be widely embraced by the general public.

"I think that education is very important," said Sarah Wright, executive director of Utah Clean Energy. "These technologies are here now, they're ready to go, so if citizens can understand how they work, (the technology) can help them be more energy independent."

The installation of wind farms is seen by many as a watershed moment for renewable energy in Utah, as it will allow people to see the technology up close.

"If you can drive down the street and see a wind turbine and know that every time it goes around, that's less oil we need to import, that's what we're hoping for," Gaynor said.

Wright said the next step the state can take to get behind renewable energy is to create a renewable energy standards portfolio, which would require public utilities to obtain a set percentage of their power from renewable sources. Such standards are in place in 22 states.

"It's kind of like when you have an investment portfolio," Wright said, "you wouldn't want all of your investments in one sector, and right now, 95 percent of our energy comes from coal."

E-mail: jtwitchell@desnews.com